

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A compression plate anastomosis apparatus for anastomosing a first vessel and a second vessel together, comprising:

a first compression plate having a first compression plate opening;

wherein the first compression plate opening has a perimeter defined by first holding means for holding a portion of the first vessel that defines a first vessel opening, wherein the first compression plate is shaped to enable the first vessel portion to extend through the first compression plate opening in a manner such that the first vessel opening conforms to the perimeter of the first compression plate opening, and wherein the first holding means is adapted to hold the first vessel portion in a manner such that the first vessel portion is at least partially everted; and

a second compression plate having a second compression plate opening;

wherein the second compression plate opening is defined by second holding means for holding a portion of a second vessel that defines a second vessel opening,

wherein the first compression plate and the second compression plate have means for locking the compression plates together, and

wherein the first holding means is shaped to hold the first vessel portion in a configuration such that when the first vessel portion and the second vessel portion are anastomosed together there is an uneven distribution of force against the first vessel portion around the first vessel opening caused by the shape of the first holding means.

2. (original) A compression plate anastomosis apparatus as recited in claim 1, wherein the first and second compression plates are snap-fit compression plates that are configured such that the locking means snap into place when the compression plates are brought together.

3. (original) A compression plate anastomosis apparatus as recited in claim 1, wherein the locking means comprises a plurality of locking arms extending from an outer periphery of a ring of the first compression plate and a locking extension of the second compression plate.

4. (original) A compression plate anastomosis apparatus as recited in claim 3, wherein the locking arms of the first compression plate have a length that enables the arms to lock around the locking extension in a manner such that the portion defining the first vessel opening and the portion defining the second vessel opening are held together without being damaged in a manner that causes the anastomosis to fail.

5. (original) A compression plate anastomosis apparatus as recited in claim 1, wherein the first holding means comprises a plurality of holding tabs extending from an inner periphery of a ring of the first compression plate.

6. (original) A compression plate anastomosis apparatus as recited in claim 1, wherein the second holding means is a holding surface located around the second compression plate opening with a configuration such that the portion of the second vessel defining the second vessel opening may be everted onto the holding surface.

7. (original) A compression plate anastomosis apparatus as recited in claim 6, wherein the holding surface extends radially downward at an angle from the second compression plate opening.

8. (withdrawn) A compression plate anastomosis apparatus as recited in claim 1, wherein the locking means comprises means for guiding the movement of one compression plate relative to the other.

9. (currently amended) A compression plate anastomosis apparatus as recited in claim 8, wherein the guiding means ~~extends~~ extend from one of compression plate and the other compression plate has a plurality of holes through which the guiding means are inserted such that the compression plate with the holes is glidably mounted on the guiding means, and wherein the holes are sized to provide frictional resistance to movement of the glidably mounted compression plate with the holes on the guiding means.

10. (original) A compression plate anastomosis apparatus as recited in claim 1, wherein the first holding means comprises a first plurality of holding tabs and wherein the second holding means comprises a second plurality of holding tabs.

11. (previously presented) A compression plate anastomosis apparatus as recited in claim 1, wherein said first and second compression plates each have an inner periphery at their respective openings, wherein said first and second holding means are located on the inner peripheries of the respective first and second compression plates.

12. (original) A compression plate anastomosis apparatus as recited in claim 1, wherein said first holding means are in mating configuration with respect to said second holding means once the second vessel is brought into contact with the first vessel for anastomosis.

13. (original) A compression plate anastomosis apparatus as recited in claim 1, wherein said second holding means is adapted to hold the portion of the second vessel that defines the second vessel opening in a manner such that the portion defining the second vessel opening is at least partially everted.

14. (withdrawn) A compression plate anastomosis apparatus as recited in claim 8, wherein said guiding means extend from the first compression plate with a perpendicular orientation.

15. (original) A compression plate anastomosis apparatus as recited in claim 1, wherein the locking means comprises at least one locking arm extending from an outer periphery of a ring of one of the compression plates and a locking extension on the other compression plate.

16. (original) A compression plate anastomosis apparatus as recited in claim 1, wherein the first compression plate and the second compression plate are adapted for use with vessel openings that are generally circular.

17. (withdrawn) A compression plate anastomosis apparatus as recited in claim 15, wherein the first compression plate and the second compression plate are adapted for use with the vessel openings that are noncircular.

18. (previously presented) A compression plate anastomosis apparatus for anastomosing vessels, comprising:

a first compression plate comprising a ring and a plurality of holding tabs extending from the ring;

wherein the plurality of holding tabs extending from the ring of said first compression plate define a first compression plate opening, wherein the ring and the holding tabs are adapted to enable the portion of the first vessel defining the first vessel opening to extend through the first compression plate opening in a manner such that the first vessel opening conforms to the perimetrical shape of the first compression plate opening, and wherein the holding tabs are adapted to hold the first vessel portion in a manner such that the first vessel portion is at least partially everted around the holding tabs; and

a second compression plate having a second compression plate opening;

wherein the second compression plate opening is defined by a holding surface located around the second compression plate opening with a configuration such that the portion of the second vessel defining the second vessel opening may be everted onto the holding surface;

wherein the first compression plate and the second compression plate have mated locking components to lock the compression plates together.

19. (original) A compression plate anastomosis apparatus as recited in claim 18, wherein the first and second compression plates are snap-fit compression plates that are configured such that the locking components snap into place when the compression plates are brought together.

20. (previously presented) A compression plate anastomosis apparatus as recited in claim 18, wherein one of the mated locking components comprises a plurality of locking arms extending from an outer periphery of the ring of the first compression plates and the other mated locking component is a locking extension extending from the second compression plate.

21. (original) A compression plate anastomosis apparatus as recited in claim 20, wherein the locking arms have a length that enables the arms to lock around the locking extension in a manner such that the portion defining the first vessel opening and the portion defining the second vessel opening are held together without being damaged in a manner that causes the anastomosis to fail.

22. (previously presented) A compression plate anastomosis apparatus as recited in claim 18, wherein the plurality of holding tabs extend from an inner periphery of the ring of the first compression plate.

23. (previously presented) A compression plate anastomosis apparatus as recited in claim 18, wherein each holding tab terminates at a rounded tip.

24. (original) A compression plate anastomosis apparatus as recited in claim 18, wherein said plurality of holding tabs extend perpendicularly from the ring of the first compression plate.

25. (original) A compression plate anastomosis apparatus as recited in claim 18, wherein said plurality of holding tabs curve inward from an exterior side of the ring of the first compression plate such that distal ends of the holding tabs are perpendicularly oriented relative to the exterior side of the ring of the first compression plate.

26. (original) A compression plate anastomosis apparatus as recited in claim 18, wherein the holding surface extends radially downward at an angle from the second compression plate opening.

27. (original) A compression plate anastomosis apparatus as recited in claim 18, wherein the first compression plate and the second compression plate are adapted for use with vessel openings that are generally circular.

28. (withdrawn) A compression plate anastomosis apparatus as recited in claim 18, wherein the first compression plate and the second compression plate are adapted for use with vessel openings that are noncircular.

29. (previously presented) A snap-fit compression plate anastomosis apparatus for anastomosing vessels, comprising:

- a first compression plate comprising a ring and a plurality of holding tabs extending from the ring;

- wherein the plurality of holding tabs extending from the ring of said first compression plate define a first compression opening, wherein the ring and the holding tabs are adapted to enable the portion of the first vessel defining the first vessel opening to extend through the first compression plate opening in a manner such that the first vessel opening conforms to the perimetrical shape of the first compression plate opening, and wherein the holding tabs are adapted to hold the first vessel portion in a manner such that the first vessel portion is at least partially everted; and
- a second compression plate having a second compression plate opening;

wherein the second compression plate opening is defined by a holding surface located around the second compression plate opening with a configuration such that the portion of the second vessel defining the second vessel opening may be everted onto the holding surface;

wherein the first compression plate has an outer periphery from which a plurality of locking arms extend, wherein the locking arms are adapted to lock with a locking extension projecting from the second compression plate that enables the compression plates to lock together.

30. (original) A compression plate anastomosis apparatus as recited in claim 29, wherein the locking arms have a length that enables the arms to lock around the locking extension in a manner such that the portion defining the first vessel opening and the portion defining the second vessel opening are held together without being damaged in a manner that causes the anastomosis to fail.

31. (previously presented) A compression plate anastomosis apparatus as recited in claim 29, wherein the plurality of holding tabs extend from an inner periphery of the ring of the first compression plate.

32. (previously presented) A compression plate anastomosis apparatus as recited in claim 29, wherein each holding tab terminates at a rounded tip.

33. (original) A compression plate anastomosis apparatus as recited in claim 29, wherein said plurality of holding tabs extend perpendicularly from the ring of the first compression plate.

34. (original) A compression plate anastomosis apparatus as recited in claim 29, wherein said plurality of holding tabs curve inward from an exterior side of the ring of the first compression plate such that distal ends of the holding tabs are perpendicularly oriented relative to the exterior side of the ring of the first compression plate.

35. (original) A compression plate anastomosis apparatus as recited in claim 29, wherein the holding surface extends radially downward at an angle from the second compression plate opening.

36. (original) A compression plate anastomosis apparatus as recited in claim 29, wherein the first compression plate and the second compression plate are adapted for use with vessel openings that are generally circular.

37. (withdrawn) A compression plate anastomosis apparatus as recited in claim 29, wherein the first compression plate and the second compression plate are adapted for use with the vessel openings that are noncircular.

38. (previously presented) A compression plate anastomosis apparatus for anastomosing a first vessel and a second vessel together, comprising:

a first compression plate comprising a ring and a plurality of holding tabs extending from the ring;

wherein the plurality of holding tabs define a first compression opening having a perimeter,

wherein the plurality of holding tabs are shaped to enable a portion of a first vessel defining a first vessel opening to extend through the first compression plate opening in a manner such that the first vessel opening conforms to the perimeter of the first compression plate opening as the first vessel portion is held by the plurality of holding tabs, and

wherein the plurality of holding tabs are adapted to hold the first vessel portion by eversion over the holding tabs at least partially around the perimeter of the first compression plate opening; and

a second compression plate comprising a holding surface around a second compression plate opening;

wherein the first compression plate and the second compression plate have mated locking components to lock the compression plates together; and

wherein the holding tabs of the first compression plate are shaped to hold the first vessel portion in a configuration such that when the first vessel portion and the second vessel portion are anastomosed together

there is an uneven distribution of force against the first vessel portion caused by the shape of the holding tabs.

39. (previously presented) A compression plate anastomosis apparatus for anastomosing a first vessel and a second vessel together comprising:

- a first compression plate comprising a ring and a plurality of holding tabs extending from the ring;

- wherein the plurality of holding tabs extending from the ring of the first compression plate define a first compression opening having a perimeter,

- wherein the plurality of holding tabs extending from the ring of the first compression plate are shaped to enable a portion of a first vessel defining a first vessel opening to extend through the first compression plate opening in a manner such that the first vessel opening conforms to the perimeter of the first compression plate opening as the first vessel portion is held by the plurality of holding tabs extending from the ring of the first compression plate, and

- wherein the plurality of holding tabs extending from the ring of the first compression plate are adapted to hold the first vessel portion by eversion over the holding tabs at least partially around the perimeter of the first compression plate opening; and

a second compression plate comprising a ring and a plurality of holding tabs extending from the ring,

wherein the first compression plate and the second compression plate have mated locking components to lock the compression plates together; and

wherein the holding tabs of the first compression plate are positioned relative to the holding tabs of the second compression plate such that when the first vessel portion and the second vessel portion are anastomosed together there is an uneven distribution of force against the first vessel portion and the second vessel portion caused by the shape of the holding tabs and the relative position of the holding tabs of the first compression plate to the holding tabs of the second compression plate.

40. (currently amended) A compression plate anastomosis apparatus for anastomosing a first vessel and a second vessel together comprising:

a first compression plate comprising first holding means for holding a portion of a first vessel that defines a first vessel opening,

wherein the first holding means defines a first compression plate opening having a perimeter;

wherein the first holding means is shaped to enable the first vessel portion to extend through the first compression plate opening in a manner such that the first vessel opening conforms to the perimeter of the first

compression plate opening as the first vessel portion is held by the first holding means, and

wherein the first holding means is adapted to hold the first vessel portion by eversion around the first holding means at least partially around the perimeter of the first compression plate opening and not by reliance on penetration of the first vessel portion by the first holding means; and

a second compression plate comprising second holding means for holding a portion of a second vessel that defines a second vessel opening,

wherein the first holding means and the second holding means are adapted to cooperate together in holding the first vessel between the first holding means and the second means,

wherein the first compression plate and the second compression plate have means for locking the compression plates together, and

wherein the locking means enables the first vessel to continue being held between the first holding means and the second holding means after anastomosis of the first vessel and the second vessel.

41. (previously presented) A compression plate anastomosis apparatus as recited in claim 40, wherein the locking means is adapted to lock the first compression plate and the second compression plate together without penetrating through the first vessel.

42. (previously presented) A compression plate anastomosis apparatus as recited in claim 40, wherein the first holding means are configured to enable the eversion of the first vessel portion to expose the interior surface of the first vessel portion to the second vessel portion.

43. (previously presented) A compression plate anastomosis apparatus for anastomosing a first vessel and a second vessel together, comprising:

- a first compression plate comprising a ring and a plurality of holding tabs extending from the ring;

- wherein the plurality of holding tabs define a first compression opening having a perimeter,

- wherein the plurality of holding tabs are shaped to enable a portion of a first vessel defining a first vessel opening to extend through the first compression plate opening in a manner such that the first vessel opening conforms to the perimeter of the first compression plate opening as the first vessel portion is held by the plurality of holding tabs, and

- wherein the plurality of holding tabs are adapted to hold the first vessel portion by eversion over the holding tabs at least partially around the perimeter of the first compression plate opening and not by reliance on penetration of the first vessel portion by the holding tabs; and

- a second compression plate having a second compression plate opening;

wherein the first compression plate and the second compression plate have mated locking components to lock the compression plates together.

44. (previously presented) A compression plate anastomosis apparatus as recited in claim 43, wherein the locking components are adapted to lock the first compression plate and the second compression plate together without penetrating through the first vessel.

45. (previously presented) A compression plate anastomosis apparatus as recited in claim 43, wherein the holding tabs are configured to enable the eversion of the first vessel portion to expose the interior surface of the first vessel portion to the second compression plate.

46. (previously presented) A method of anastomosing a first vessel and a second vessel together, comprising:

obtaining a first compression plate comprising a first ring and a plurality of holding tabs extending from the first ring, wherein the plurality of holding tabs define a first compression opening having a perimeter,

obtaining a second compression plate having a second compression plate opening,

creating a first vessel opening in a first vessel,

extending a portion of the first vessel defining the first vessel opening through the first compression plate opening,

everting the first vessel portion over the plurality of holding tabs at least partially around the perimeter of the first compression plate opening in a manner such that the first vessel opening conforms to the perimeter of the first compression plate opening,

locking the first compression plate and the second compression plate together as a second vessel is held by the second compression ring to anastomose the first vessel and the second vessel together at the first vessel opening and the second vessel opening, wherein the shape of the holding tabs causes an uneven distribution of force against the first vessel portion after the first vessel portion and the second vessel portion are anastomosed together.

47. (previously presented) The method of claim 46, wherein the first vessel is held by the plurality of holding tabs without relying on penetration of the first vessel portion by the plurality of holding tabs.

48. (previously presented) The method of claim 46, wherein everting a portion of the first vessel enables the holding tabs of the first ring to contact the exterior of the first vessel such that the interior surface of the first vessel contacts the second vessel at the respective openings of the first vessel and the second vessel.

49. (previously presented) The method of claim 46, wherein the second vessel is held by the second compression plate in an everted configuration such that the interior surface of the first vessel contacts the interior surface of the second vessel at their respective openings.

50. (previously presented) The method of claim 46, wherein said second compression plate has a second plurality of holding tabs in a mated configuration with the first plurality of holding tabs are after the vessels are anastomosed together.

51. (previously presented) The method of claim 46, wherein the first compression plate and the second compression plate are adapted for use with vessel openings that are generally circular.

52. (previously presented) A method of anastomosing a first vessel and a second vessel together, comprising:

- obtaining a first compression plate comprising a first ring and a first plurality of holding tabs extending from the first ring, wherein the first plurality of holding tabs define a first compression opening having a perimeter,

- obtaining a second compression plate having a second compression opening,

- creating a first vessel opening in a first vessel,

extending a portion of the first vessel defining the first vessel opening through the first compression plate opening,

everting the first vessel portion over the plurality of holding tabs at least partially around the perimeter of the first compression plate opening in a manner such that the first vessel opening conforms to the perimeter of the first compression plate opening as the first vessel portion is held without relying on penetration of the first vessel portion by the plurality holding tabs; and

locking the first compression plate and the second compression plate together as a second vessel is held by the second compression ring to anastomose the first vessel and the second vessel together at the first vessel opening and the second vessel opening.

53. (previously presented) The method of claim 52, wherein everting a portion of the first vessel enables the holding tabs of the first ring to contact the exterior of the first vessel such that the interior surface of the first vessel contacts the second vessel at the respective openings of the first vessel and the second vessel.

54. (previously presented) The method of claim 52, wherein the second vessel is held by the second compression plate in an everted configuration such that the interior surface of the first vessel contacts the interior surface of the second vessel at their respective openings.

55. (previously presented) The method of claim 52, wherein said second compression plate has a second plurality of holding tabs in a mated configuration with the first plurality of holding tabs are after the vessels are anastomosed together.

56. (previously presented) The method of claim 52, wherein the first compression plate and the second compression plate are adapted for use with vessel openings that are generally circular.

57. (currently amended) A method of anastomosing a first vessel and a second vessel together, comprising:

obtaining a first compression plate and a second compression plate,

creating a first vessel opening in a first vessel,

extending a portion of the first vessel defining the first vessel opening through a first compression plate opening of the first compression plate,

everting the first vessel portion at least partially around the perimeter of the first compression plate opening in a manner such that the first vessel opening conforms to the perimeter of the first compression plate opening as the first vessel portion is held without relying on penetration of the first vessel portion;
and

locking the first compression plate and the second compression plate together as a second vessel is held by the second compression ring to anastomose the first vessel and the second vessel together at the first vessel

opening and a second vessel opening, wherein the first compression plate and the second compression plate have configurations which cause an uneven distribution of force against the first vessel portion and the second vessel portion at an interface between the first vessel and the second vessel as the first vessel portion and the second vessel portion are held between the first compression plate and the second compression plate after the first vessel portion and the second vessel portion are anastomosed together.